

What is claimed is:

1. A method for inducing an immune response to an endogenous antigen in a subject comprising delivering a cytotoxic agent,

5 wherein said cytotoxic agent is an effective amount of one or more of herpes simplex virus thymidine kinase (HSV-tk), ganciclovir, or a rejection antigen, that stimulates *in vivo* loading of an endogenous antigen,

wherein said endogenous antigen is a tumor associated antigen or a viral antigen, into an antigenic binding protein (APBP) molecule,

10 wherein said APBP molecule is selected the group consisting of a heat shock protein (HSP), a soluble major histocompatibility complex (MHC) class I molecule, an antigen presenting matrix, a multimer of soluble MHC class I molecules and an antibody engineered to bind antigen peptides, under conditions so that the endogenous antigen is presented to a T cell and the agent induces lysis of said target cell.

15

2. A method for inducing lysis of a target cell in a subject, comprising the steps of:

a. inducing an immune response to an exogenous rejection antigen in the subject, comprising (i) delivering to the subject an effective amount of a composition comprising the exogenous rejection antigen that presents the exogenous rejection antigen on the cell surface, or (ii) delivering to the subject an effective amount of an immune effector cell population educated with the exogenous rejection antigen; and

20 b. delivering to a target cell, wherein the target cell is a tumor cell or a virally infected cell, in the subject an effective amount of a polynucleotide encoding the exogenous antigen, thereby inducing lysis of the target cell in the subject.

25

3. The method of claim 2 further comprising delivering an effective amount of an antigen presenting cell recruitment factor.

30 4. A fusion polypeptide comprising a T cell antigen presenting domain fused to an oligomerization domain.

5. The fusion polypeptide of claim 4, wherein the T cell antigen presenting domain comprises a plurality of immunoglobulin fold domains of an MHC class I molecule.

5 6. The fusion polypeptide of claim 4 wherein the oligomerization domain is selected from the group consisting of a peptide mimetic of a ligand, and a self-assembling protein.

10 7. An isolated polynucleotide comprising a nucleic acid sequence encoding the fusion polypeptide of claim 4.

8. A gene delivery vehicle comprising the polynucleotide of claim 7.

15 9. A host cell comprising the polynucleotide of claim 7.

10. A host cell comprising the polypeptide of claim 4.

20 11. A recombinant system comprising the isolated polynucleotide of claim 7 and a second polynucleotide that encodes a T cell epitope which binds specifically to the antigen presenting domain of the fusion polypeptide.

12. A method of producing an antigen presenting multimer comprising expressing a recombinant system comprising the isolated polynucleotide of claim 7 and a second polynucleotide that encodes a T cell epitope, said T cell epitope selected from the group consisting of a tumor cell antigen, a pathogenic antigen, and a self-antigen, which binds specifically to the antigen presenting domain of the fusion polypeptide, under conditions which allow the formation of antigen presenting multimers and isolating the multimer.

13. A method of detecting an antigen specific T cell comprising contacting peripheral blood lymphocytes with antigen presenting multimers of claim 12 under conditions which allow antigen specific binding to T cells, and detecting the multimer-T cell complex.

5

14. A method of isolating an antigen specific T cell comprising purifying the antigen specific T cells of claim 13.

10 15. The T cell isolated by the method of claim 14.

16. A method of expanding a population of antigen specific T cells comprising culturing the cell of claim 15.

15 17. The T cell population expanded by the method of claim 16.

18. A method of enhancing an immune response in a subject comprising administering to the subject an expanded population of antigen specific T cells of claim 17.